REMARKS

Claims 1-24 are currently pending in the application. Claims 1, 13, 18, and 21 have been amended. New claim 24 has been added.

On page 2 of the Office Action, the Examiner objected to the drawings. In particular, the Examiner alleged that the "judging apparatus" in claims 1 and 18 is not illustrated as an apparatus.

Applicants respectfully submit that the judging unit is clearly indicated in the figures as an apparatus. For example, FIG. 1 clearly illustrates the judging unit, that is, controller 121. The specification clearly states that the controller 121 controls the constituent units. In particular, the specification states that the controller 121 monitors the dispersion while varying the carrier frequency fRF and the symbol rate SR, and when the size of the dispersion AA becomes an extremal value, judges that a channel exists. *See* specification of the present invention, page 15, line 24 – page 16, line 4. Therefore, withdrawal of the objection is respectfully requested.

On page 2 of the Office Action, claims 1-4, 6, 21, and 23 were rejected under 35 U.S.C. § 103(a) as being unpatentable over the background section of Applicants' specification in view of U.S. Patent No. 6,628,923 (Eriksson).

Eriksson is directed to an apparatus for computing coefficient values for configuring a digital filter for compensating for non-linearity of an RF/IF device. The apparatus includes a reference signal generator, connected to an input of the RF/IF device for generating an input reference signal to the RF/IF device.

Applicants respectfully submit that independent claims 1 and 18 are patentable over Applicants background section in view of Eriksson, as neither Applicants' background section nor Eriksson, alone or in combination, discloses or suggests, "a judging unit . . . judging that a channel exists . . . when the size of the dispersion detected by said dispersion detector becomes an extremal value."

On page 3 of the Office Action, the Examiner acknowledged that Applicants' background section fails to disclose the "dispersion detector" of the present invention. As the judging unit of the present invention judges that a channel exists when the dispersion detected by the dispersion detector becomes an extremal value, the judging unit is also not disclosed by Applicants' background section. That is, as the judging unit relies on the dispersion detected by the dispersion detector, the judging unit cannot be disclosed if the dispersion detector is not disclosed. Therefore, neither the judging unit nor the dispersion detector of the present invention are taught or suggested by the background section of Applicants' specification.

Applicants respectfully submit that Eriksson does not add any relevant information to Applicants' background section. For example, the combination of references fails to disclose or suggest a judging unit performing the judging operation recited in the claim language of the present invention. Assuming *arguendo* that Eriksson discloses a dispersion detector, as alleged by the Examiner on page 4 of the Office Action, Eriksson does not disclose or suggest a judging unit "judging that a channel exists at a position of a current symbol rate set value and a current carrier frequency set value when the size of the dispersion detected by said dispersion detector becomes an extremal value," as recited in claim 1, for example.

Rather, Eriksson simply discloses the comparison of a digital signal with a reference signal and calculates the difference with respect to phase and amplitude of the input frequencies of the reference signal. *See* Eriksson, column 2, lines 61-67. Judging whether a channel exists based on the size of a dispersion of amplitude is not performed in Eriksson. In fact, Eriksson clearly indicates that its comparison is performed to compute requisite coefficients for an adaptive compensating device such that the RF/IF device in combination with the adaptive compensating device provides a response signal that is substantially linear (with respect to the amplitude and/or phase characteristics of the input signal). *See* Eriksson, column 2, line 67 – column 3, line 6.

In light of the foregoing, claim 1 is patentable over the references. As dependent claims 2-4, 6, 21, and 23 depend from independent claim 1, the dependent claims are patentable over the references for at least the reasons presented for independent claim 1.

Claims 18-20 were rejected under 35 U.S.C. § 103 as being unpatentable over Applicants' background section in view of Eriksson and Japanese Patent Publication No. 2001137778 (Kamiya). As Kamiya does not add any relevant information to the cited combination of references, claims 18-19 are patentable over the references for at least the reasons presented above.

On page 9 of the Office Action, claims 1-22 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention.

In particular, the Examiner rejected claims 1, 3, 9, 18, and 20 due to the claims allegedly being indefinite for the use of the term "extremal." Applicants respectfully submit that the claims are not indefinite. The term "extremal" is a standard mathematical term (and included in a dictionary) that describes an element having a maximum or minimum value. As one of ordinary skill in the relevant art would readily recognize the term, the claims are not indefinite.

Regarding the rejection of claims 1, 13, 18, and 21 under 35 U.S.C. § 112, Applicants have amended the claims. Therefore, withdrawal of the rejection is respectfully requested.

On page 10 of the Office Action, the Examiner alleged that claim 22 is identical to claim 21. Applicants respectfully submit that the claims are not identical. Withdrawal of the objection is respectfully requested.

Applicants respectfully submit that independent claim 24 is patentable over the references, as none of the references teach or suggest, "monitoring dispersion while varying a carrier frequency set value and a symbol rate set value; and judging that a channel exists at a position of a current symbol rate set value and a current carrier frequency set value when the size of the dispersion becomes an extremal value," as recited in claim 24.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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